

# PATENT ABSTRACTS OF JAPAN

(11) Publication number : 11-313465

(43) Date of publication of application : 09.11.1999

(51) Int.Cl. H02K 11/00  
F28D 15/02  
H02K 5/22  
H02K 9/04

(21) Application number : 10-119059

(71) Applicant : TOSHIBA CORP

(22) Date of filing : 28.04.1998

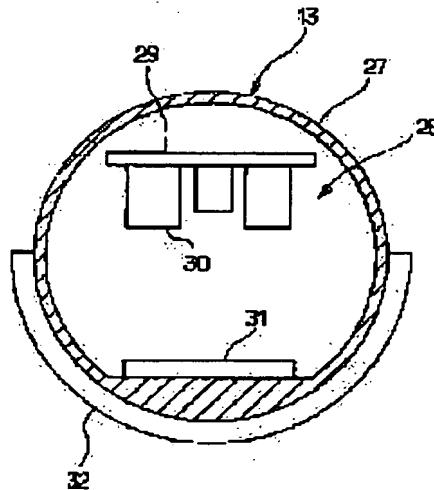
(72) Inventor : NAKAHAMA YOSHIFUMI  
NAITO HARUO

## (54) MOTOR WITH CONTROL DEVICE

### (57) Abstract:

**PROBLEM TO BE SOLVED:** To improve cooling capability and to downsize the overall structure of a motor with a control device.

**SOLUTION:** This motor with a control device, in which the control device for driving and controlling the motor is mounted solidly with the motor, is provided with a plate heat pipe 32 having a cross section of roughly a U-shape, mounted in such a way that its middle part is brought into contact the bottom part of the outside circumference of the casing 27 of the control device 13 or a motor frame and that its end parts contact the side parts of the outside circumference. Then, a heating element 31 for the control device 13 is arranged at the bottom part inside the casing 27. This structure enables the heat generated from the heating element 31 to be radiated quickly through the plate heat pipe 32.



## LEGAL STATUS

[Date of request for examination] 07.03.2002

[Date of sending the examiner's decision of rejection] 08.06.2004

[Kind of final disposal of application other

than the examiner's decision of rejection or  
[application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against  
examiner's decision of rejection]

[Date of extinction of right]